

STATEMENT OF THE CLAIMS

1. (previously presented) A fall arrest device for use on an elongate support, said device comprising:

chassis means having safety support retaining means to retain an elongate support whilst allowing movement of the device therealong, and including a sliding element for slidably engaging said elongate support;

first and second locking cam means for locking the device to the elongate support in a fall arrest situation;

first and second link means; and

attaching means for attaching personal safety means to the device and transmitting a load from the personal safety means to said link means;

in which said first and second locking cam means comprise respective first and second cam elements each arranged for rotation about a respective first axis relative to the chassis and able to move between a first locking position in which the cam element traps the elongate support between itself and the sliding element and a second released position in which the cam element does not trap the elongate support;

the first and second link means each being connected to a respective one of the first and second cam elements for rotation about a respective second axis separated from the corresponding first axis by a fixed offset defined by the respective cam element, the first and second link means being connected together for rotation about a third axis separated from said first and second axes, and the attaching means being able to move relative to the link means, so that the first and second locking cam means can be moved between their first and second positions by loads applied to the device through the attaching means;

in which each of the first and second link means comprises two parts arranged for reversible relative movement in response to an applied load from the attaching means above a predetermined value, the movement being such that a part of the link means intermediate said second and third axes descends relative to said second axis.

2. (previously presented) A device as claimed in claim 1, in which the cam means and link means are arranged so that said movement of the two parts of a respective link means will move at least one of said locking cam means towards its first locking position.
3. (previously presented) A device as claimed in claim 1, in which the first and second cam elements are arranged for rotation relative to one another about a common first axis.
4. (previously presented) A device as claimed in claim 3, in which the first and second

cam elements and said common first axis are arranged for rotation about a fourth axis spaced from and parallel to the common first axis, the fourth axis being located nearer than the common first axis to the sliding element.

5. (original) A device as claimed in claim 4, in which the first and second locking cam means are arranged for rotation about a boss which is arranged for rotation about the fourth axis.

6. (previously presented) A device as claimed in claim 5, in which the chassis means includes at least one rotatable element having a peripheral recess.

7. (previously presented) A device as claimed in claim 6, in which the first and second cam elements and said common first axis are arranged for rotation about a fourth axis spaced from and parallel to the common first axis, the fourth axis being located nearer than the common first axis to the sliding element, and wherein the rotatable element is rotatable about the fourth axis.

8. (previously presented) A device as claimed in claim 1, in which the first and cam elements and first and second link means form a quadrilateral linkage defined by the first axis, the second axis for the first link means, the second axis for the second link means, and third axis, wherein the device can be configured in a first configuration and a second configuration;

wherein, in the first configuration, the first and second cam elements are in the

first locking position and the first and third axes of the quadrilateral linkage are offset from one another by a first distance; and

wherein, in the second configuration, the first and second cam elements are in the second released position and the first and third axes of the quadrilateral linkage are offset from one another by a second distance, the second distance being less than the first distance.

9. (previously presented) A device as claimed in claim 8, in which the attaching means includes a loop passing around the link means so that the attaching means can transmit a load to the device by the loop bearing on a bearing surface of the link means, the bearing surface facing the interior of the quadrilateral linkage.

10. (previously presented) A device as claimed in claim 1, in which each link means comprises a first arm arranged for rotation about said respective second axis and a second arm arranged for rotation about said third axis, the first and second arms being connected for rotation about a fifth axis, said reversible relative movement being rotation of the first and second arms about the said fifth axis.

11. (previously presented) A device as claimed in claim 10, in which the attaching means includes a loop passing around the link means so that the attaching means can transmit a load to the device by the loop bearing on a concave bearing surface of the first arm of the respective link means.

12. (previously presented) A device as claimed in claim 10, in which the attaching means includes a loop passing around the link means so that the attaching means can transmit a load to the device by the loop bearing on a concave bearing surface of the second arm of the respective link means.

13. (withdrawn) A device as claimed in claim 4, further comprising a control means arranged for rotation about said fourth axis, so that the cam elements can be moved into the second, unlocked position by said rotation.

14. (previously presented) A device as claimed in claim 10, in which the attaching means includes a loop passing around the link means so that the attaching means can transmit a load to the device by the loop bearing on a bearing surface of the link means, and wherein the load applied to the bearing surface of the link means by the loop will urge at least one of the cam elements towards the first locking position.

15. (previously presented) A device as claimed in claim 14, further comprising an element limiting the movement of said loop so that it can only bear on predetermined bearing surfaces of the link means.

16. (cancelled)

17. (previously presented) A fall arrest device for use on an elongate support, said device comprising:

chassis means having safety support retaining means to retain an elongate support whilst allowing movement of the device therealong, and including a sliding element for slidably engaging said elongate support;

first and second locking cam means for locking the device to the elongate support in a fall arrest situation;

first and second link means; and

attaching means for attaching personal safety means to the device and transmitting a load from the personal safety means to said link means;

in which said first and second locking cam means comprise respective first and second cam elements each arranged for rotation about a respective first axis relative to the chassis and able to move between a first locking position in which the cam element traps the elongate support between itself and the sliding element and a second released position in which the cam element does not trap the elongate support;

the first and second link means each being connected to a respective one of the first and second cam elements for rotation about a respective second axis separated from the corresponding first axis, the first and second link means being connected together for rotation about a third axis separated from said first and second axes, and the attaching

means being able to move relative to the link means, so that the first and second locking cam means can be moved between their first and second positions by loads applied to the device through the attaching means;

in which the first and cam elements and first and second link means form a quadrilateral linkage defined by the first axis, the second axis for the first link means, the second axis for the second link means, and third axis;

in which the device can be configured in a first configuration and a second configuration;

wherein, in the first configuration, the first and second cam elements are in the first locking position and the first and third axes of the quadrilateral linkage are offset from one another by a first distance; and

wherein, in the second configuration, the first and second cam elements are in the second released position and the first and third axes of the quadrilateral linkage are offset from one another by a second distance, the second distance being less than the first distance.

18. (previously presented ) A device as claimed in claim 17, in which the first and second cam elements are arranged for rotation relative to one another about a common first axis.

19. (previously presented) A device as claimed in claim 18, in which the first and second cam elements and said common first axis are arranged for rotation about a fourth axis spaced from and parallel to the common first axis, the fourth axis being located nearer than the common first axis to the sliding element.

20. (previously presented) A device as claimed in claim 19, in which the first and second locking cam means are arranged for rotation about a boss which is arranged for rotation about the fourth axis.

21. (previously presented) A device as claimed in claim 18, in which the chassis means includes at least one rotatable element having a peripheral recess.

22. (previously presented) A device as claimed in claim 21, in which the first and second cam elements and said common first axis are arranged for rotation about a fourth axis spaced from and parallel to the common first axis, the fourth axis being located nearer than the common first axis to the sliding element, and wherein the rotatable element is rotatable about the fourth axis.

23. (previously presented) A device as claimed in claim 17, wherein the respective second axis of the first and second link means is separated from the corresponding first axis by a fixed offset defined by the respective cam element.



24. (previously presented) A device as claimed in claim 17, wherein the first and second link means each include two parts arranged for reversible relative movement in response to a load applied by the attaching means.

25. (previously presented) A device as claimed in claim 24, in which the attaching means includes a loop passing around the link means so that the attaching means can transmit a load to the device by the loop bearing on a bearing surface of the link means, the bearing surface facing the interior of the quadrilateral linkage.

26. (previously presented) A device as claimed in claim 24, in which said first and second link means each comprise a first arm arranged for rotation about said respective second axis and a second arm arranged for rotation about said third axis, the first and second arms being connected for mutual rotation about a fifth axis.